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OFFICE OF INDIAN AFFAIRS

MANUAL
ON
TUBERCULOSIS

ITS CAUSE, PREVENTION, AND TREATMENT

BY

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This pamphlet was specially prepared to give to the Indian in the simplest way the facts which he should know in regard to tuberculosis, and to show him in a practical way how to modify his home conditions so as to prevent the spread of the disease.

It is intended to be placed in the hands of every Indian pupil in the Indian schools who can read. The teacher should teach the subject by sections, and at the close of the school allow the pupil to cover the book and take it home to instruct the family and keep for reference.

It is intended also for distribution to all employees of the Indian service for their instruction, and in order that they may be able to teach the facts to the Indians with whom they come in contact. They should retain the pamphlet for reference.

Physicians and field matrons should distribute the pamphlet in the homes where the Indians can read, and where members of the family have tuberculosis. Additional copies for use in this way may be obtained from the Indian Office by request.

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MANUAL ON TUBERCULOSIS.

TUBERCULOSIS (OR CONSUMPTION) IS CONTAGIOUS—IT CAN BE PREVENTED AND CURED.

WHAT IS TUBERCULOSIS?

Tuberculosis of the lungs is also called "consumption." It is a disease which very slowly weakens the body until it may finally cause death.

At first there is usually a slight cough and a small amount of matter spit up from the lungs. Gradually the body becomes thinner and weaker, the skin becomes pale, the heart beats faster, and the breathing becomes quicker, especially after exercise.

If the proper care is not taken, the cough slowly becomes worse, there may be bleeding from the lungs, and the blood spit up. The body becomes hot in the evenings; there is fever. At night there may be sweats. The appetite becomes poor. Cough, fever, and sweats increase. A great deal of matter may be spit up from the lungs until finally the lungs are so badly diseased that death results.

This disease may be cured if the proper care is taken of the body.

INDIANS HAVE TUBERCULOSIS MORE THAN OTHER PEOPLES.

The doctors have found that a great many Indian tribes are slowly dying of tuberculosis. Whole Indian families die of it—fathers, mothers, and their children. The children have to be sent home from the schools because of this sickness. Many Indians have the disease for a long time, but may finally get well.

TUBERCULOSIS IS CAUSED BY GERMS.

Tuberculosis of the lungs (or consumption) is caused by little plants which are so small that they can not be seen unless they are looked at through the microscope.

The microscope makes them seem many hundred times larger than they are, and through it they look like very small, short threads. These plants are called tuberculosis germs.

When a few of these germs get into the lungs, they grow there till there are many millions of them. They are like the seeds of weeds which get into a plowed field and grow until there are many weeds all over the field. When tuberculosis germs grow in the body they destroy the lung and cause the one who has them to cough and spit. Sometimes the germs destroy the blood vessels and cause

the lungs to bleed. This blood comes up into the mouth and is spit out.

The matter which a person who has tuberculosis spits up from the lung is called sputum. It frequently has in it large numbers of tuberculosis germs.

Tuberculosis germs do not grow in strong lungs, but grow very rapidly in weak lungs.

Everything which makes the body weak weakens the lungs also, so that the tuberculosis germs grow in them more easily.

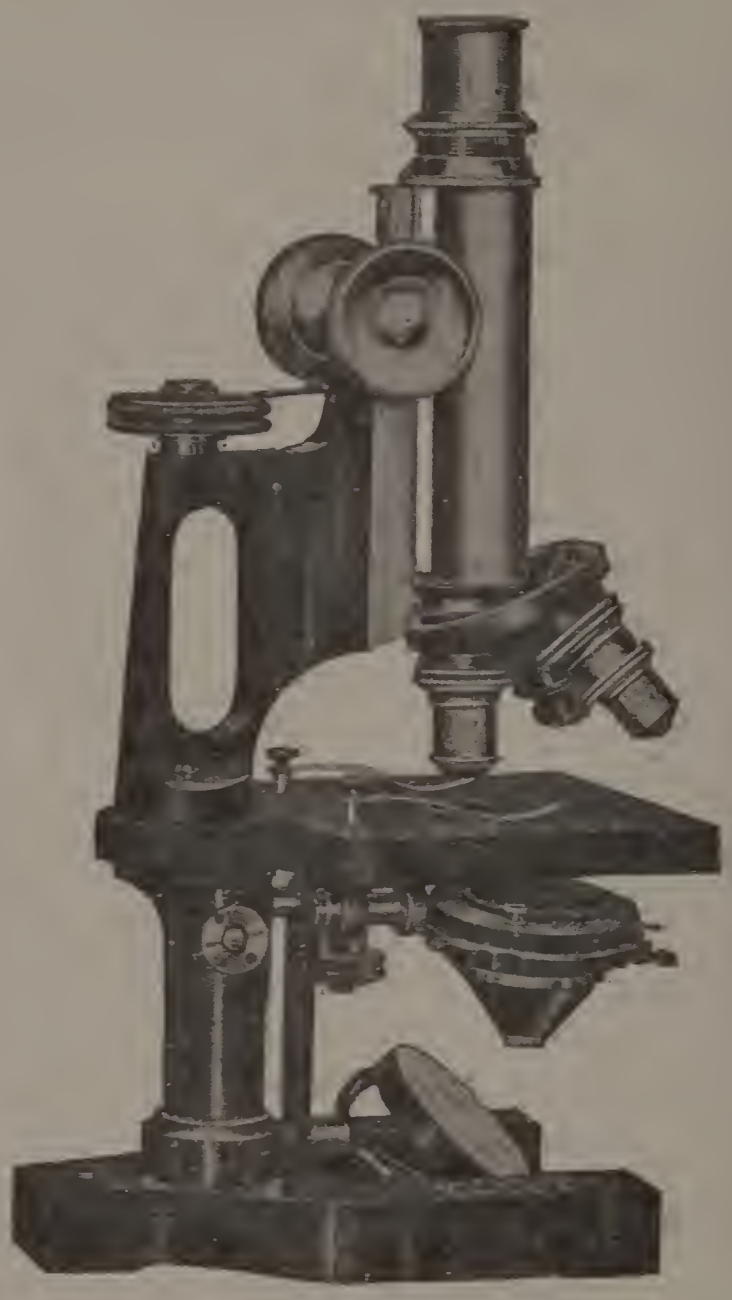

FIG. 1.—THE MICROSCOPE.
In order to see the germs they must be placed on a glass plate and looked at through the microscope.

Breathing the air of a crowded room or the dust caused by sweeping is bad for the lungs.

If one does not get enough food or does not eat the right kinds of food to build up the body, then the body and the lungs become weak.

Too violent exercise, like dancing too long without rest, or work which tires the body too much or keeps one up too long without sleep, weakens the body and the lungs also.

Exposure to cold or wet for a long time without sufficient clothing has the same effect.

The drinking of whisky or the use of tobacco is also weakening.

Diseases such as measles, whooping cough, pneumonia, and influenza frequently leave the body in a weakened condition.

If the tuberculosis germs get into the body or lungs of one weakened by any of these conditions, they grow very rapidly and the person soon becomes sick with tuberculosis.

WHERE DO THE TUBERCULOSIS GERMS COME FROM?

From the dried sputum in the house dust.—People and animals sick with tuberculosis are the source of all the germs. Millions of tuberculosis germs grow in the lungs of those who have tuberculosis. The matter which they spit up from the lungs contains countless numbers

FIG. 2.—TUBERCULOSIS GERMS.
When the tuberculosis germs are looked at through the microscope they look like these little marks.

of these germs. When this matter is spit on the floor of the house the sputum dries, but the germs live there for months. They mingle with the dust on the floor and are very easily blown up into the air of the room when the floor is swept or walked upon.

From moist drops thrown out in coughing.—Sometimes the little drops of fluid coughed from the lungs contain a great many tuberculosis germs. These drops settle on the food or on the floor and in this way are spread about the house.

From tubercular sores of the neck.—Sores on the neck frequently contain tuberculosis germs. The matter and germs from these sores gets upon the cloths used to cover the neck.

From dishes, pipes, and clothes of the sick.—Those who have tuberculosis are likely to get the germs from their mouths onto their pipes,

cups, spoons, handkerchiefs, towels, blankets, and other things which they handle or place in the mouth.

From the milk and meat of tubercular cows.—Cows sometimes have tuberculosis. The milk or meat from these sick cows frequently contains the tuberculosis germs.

HOW DO TUBERCULOSIS GERMS GET INTO THE BODY?

No one can take tuberculosis unless the tuberculous germs get into and grow and multiply in the body.

How do these germs get into the bodies and lungs of well people? They enter the body in three ways: (1) Through the air which we breath; (2) in the food; and (3) through the skin.

The germs are breathed into the lungs.—The air and dust in houses in which persons who have tuberculosis have spit on the floor contain tuberculosis germs. When this is breathed into the lungs the germs remain and grow.

Tuberculosis germs may be taken into the body on food.—Milk or meat from tubercular cows, and food which has not been covered or protected from dust or flies, may contain tuberculosis germs. When the food is eaten the germs live and remain and grow in the body.

Flies frequently bring tuberculosis germs to the food by walking in the sputum on the floor and then walking on the food.

The germs may get upon the food from unwashed hands and thus be taken into the body.

Tuberculosis germs may enter the body through cuts in the skin.—The dirt which collects on the skin may contain the germs which may enter the body through a slight scratch or wound.

HOW THE GERMS ARE KILLED.

Tuberculosis germs live for months after being spit out upon the floor. They should be killed in order that they may not get into the lungs of well people and give them the disease.

Fire, boiling water, strong sunlight, and poisonous drugs will kill the germs. The free use of soap and water will remove them. If plenty of fresh air is admitted to the house it blows them away.

Fire and boiling water kill the germs.—Burning in the fire or boiling in water are the best methods of killing the germs. *All sputum should be burned.* It may be spit directly into the fire or into folded pieces of paper to be placed in the fire.

If cups or other vessels are used for sputum, water should be placed in them to prevent the sputum from drying, and thus blowing about the house. The sputum from these cups should be emptied into the fire every day and the cups boiled in water in order to kill the germs which stick to them. Paper cups may be bought, which may be burnt after using.

Cloths used to cover sores of the neck should be burned.

All handkerchiefs or cloths used by those who have tuberculosis should be boiled before washing. Their cups, knives, spoons, and other dishes should also be boiled before washing. This will kill the germs which stick to them.

The boiling of milk or the thorough cooking of meat or other food will kill any germs which they contain.

Strong sunlight kills the germs.—Tuberculosis germs live but a few hours in the bright sunlight. They die sooner if the sun shines directly on them. Many Indian homes have only one window. More windows should be built and the sunlight allowed to make the whole house bright, and thus kill the germs which may be there.

The sunlight should especially be let into the rooms of those who are sick.

Bedding and clothing sould be frequently aired in the sun to kill the germs which may collect on them.

The germs may be killed by poisonous drugs.—When it is not possible to burn or boil the articles containing the germs, poisonous drugs or gases should be used to kill them.

Carbolic acid may be mixed with hot water and applied to clothing or other articles which have the germs on them. Six teaspoonfuls of the acid to a pint of hot water makes a very strong solution. This is very poisonous.

Bichloride of mercury is sold in small blue tablets. One of these dissolved in a pint of water makes a solution which may be used in the same way. This is also very poisonous.

Carbolic acid or bichloride of mercury solution may be used to wash floors, walls, beds, or other furniture which has been used by persons having tuberculosis.

Formaldehyde may be evaporated into a gas which will kill all kinds of germs. It is used for killing the germs in rooms and houses. Whenever a person dies of tuberculosis or leaves the house where he has been living, formaldehyde should be used to kill the germs which he leaves behind. The room should be tightly closed, all cracks being sealed by pasting paper over them. One pint of formaldehyde is used for each 1,000 cubic feet of air in the room. Sheets wrung out of it may be hung in the room and the door quickly sealed and left so at least eight to ten hours.

Carbolic acid, bichloride, and formaldehyde are all very poisonous and should be used only under the direction of a physician.

HOW TO AVOID TUBERCULOSIS AND KEEP WELL.

The chief cause of tuberculosis among the Indians is their method of living in their homes.

Do not spit on the floor.—Spitting on the floor or around or near the house is a very common custom. In this way the houses become very quickly filled with the dust and tuberculosis germs from the

dried sputum, so that the people living in the house and breathing the dust take the disease.

Members of the family, whether sick or well, should not spit on the floor of the house or on the paths or grounds around it, and they should not permit any visitors to do so. *All sputum should be burned.*

Let light and fresh air into the house.—In many Indian homes there is but one sleeping room, where all the family sleep together. These rooms are frequently greatly crowded and sometimes have no windows, or only one window through which light and air may enter. When fresh air is not freely admitted to the room, it quickly becomes unhealthy, and if the room is crowded disease is spread from one person to another.

The lungs require fresh air in order to remain strong. Windows should always be open in the sleeping rooms, even during very cold weather. During the winter warm blankets should be used, but the face should not be covered by them.

Plenty of light and air should be allowed to enter the house in the daytime. If the rooms are dark, more windows should be built in order that the direct sunlight may enter. Sick persons should always sleep alone.

Keep clean.—Cleanliness of the body, of clothing, of the home, of food, and of everything with which we come in contact is an important way of keeping our surroundings free from disease germs. In this way diseases caused by these germs are prevented. Soap and hot water, frequently used, is sufficient to kill or remove many tuberculosis germs which may lodge in our homes or on our clothes or bodies.

The hands and face should be washed and the teeth brushed before eating. The hands should be washed before handling food. Food should not be eaten from the floors, but from a clean table from clean dishes. Raw food, such as apples and pears, should be washed before eating, and all food should be kept covered and free from dust and flies. Drying meat, especially, should be protected from dust and flies.

Do not raise a dust in house cleaning.—Sweeping should be done with a damp broom, or damp sawdust or other damp material should be scattered on floors beforehand. Dusting should be done with a damp cloth.

Eat sufficient pure, clean, nourishing food.—The food which is eaten goes to build up the body and help it overcome disease. Bread, butter, milk, eggs, fresh meat, beans, rice, corn, flour, sugar, fresh vegetables, and fruit, well cooked and clean, if eaten in sufficient quantities and well chewed, are sufficient to keep the body strong and well nourished.

Spend part of the day in the open air.—Not only should a person have plenty of air in the sleeping room at night, but he should spend

a part of each day in the fresh air. Daily exercise out of doors will keep the body in good condition.

WHAT TO DO IF YOU HAVE TUBERCULOSIS.

Tuberculosis *can be cured* if treatment is begun early.

Live in the fresh air.—Spend all your time in the pure, fresh air. Sleep out of doors. If in the house, keep windows open at all times, both winter and summer. Use sufficient clothing and bed covering to keep the body warm; do not be overclad, but be comfortably clad. In cold climates protect the head and ears from cold, but do not cover the face with blankets. A screened porch is the best place to live.

Take sufficient rest.—If there is fever, stay in bed. As the fever disappears and strength returns, exercise in the air and sunshine may be gradually taken. Do not exercise if there is chill or fever. Guard against weariness. Do not get overtired. Avoid excitement or strain of any kind, even if only for a short time. Use a reclining chair, in which rest may frequently be taken while not actually in bed.

Eat regularly clean, plain, well-cooked, nourishing food, especially milk and eggs.—Unless the body receives the proper food it will not overcome the disease. Milk and eggs are the best known foods for building up the body and helping it to overcome tuberculosis.

Avoid patent medicines and alcohol—Consult the doctor.—The physician should be called in and only such medicine taken as he shall direct. His advice should be followed.

IF YOU HAVE TUBERCULOSIS DO NOT SPREAD IT TO OTHERS.

Destroy all your sputum by fire.

Do not spit on the floor or swallow your sputum.

Cups used for sputum should be burned or boiled.

Sleep alone.

Use separate dishes.

Do not pass the pipe.

Have all clothes and dishes boiled before being washed.

Use a piece of clean cloth as a handkerchief and hold it in front of the mouth while coughing. Burn it after using.

Mothers who have tuberculosis should wean their children.

When a person who has tuberculosis dies or moves out of a room the physician should be called to disinfect or kill all the germs in the room.

HOW SANITARY CONDITIONS MAY BE IMPROVED.

The following illustrations show how sanitary conditions may be improved by slight changes in the Indian homes and methods of living. Notice particularly the first three pictures, showing how easily the homes of Indians in the South may be bettered.

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AN INDIAN HOME IN THE SOUTHWEST.

This shows an Indian home where the conditions are bad. The food is prepared on the floor of the house or on the ground just outside. The dishes and food are on the ground and everything is disorderly and dirty. These Indians spit on the same ground from which they eat their food. The climate is warm and dry so that dust from that ground gets all over the food and dishes, which are never put away and are always dirty.

A MOJAVE INDIAN HOME.

The health conditions here are better than in the first picture. The Indians eat from a clean table instead of the floor. A couple of towels hang from the house corner and the center shelter pole on which they may dry their hands and faces when they wash before meals. (They should have separate towels for each person.) There is a small set of shelves beside the door for putting away the dishes when not in use. The condition of this house can be much improved. There is only one small window, so that the interior of the house is dark and very little fresh air can enter. The germs of disease would live in this house for months, and if the whole family sleep in this closed room at night they are very likely to become diseased. More and larger windows should be cut into the house so that the light and fresh air may enter freely. No one should spit on the floor in the house, or on the ground around the house.

AN OPEN-AIR DINING ROOM.

This shows how easy it would be to convert one of the Indian homes with a brush shelter into a model home. A neat table could be built at very little cost. It is not necessary to have a tablecloth if the table is kept clean. Dishes and food which are not in use are put away. The boys in this picture have washed their faces and hands and are clean and neat, ready to eat their lunch. How much better, cleaner, and healthier a way this is to live than that shown in the first picture.

A REED AND MUD HOUSE WITH NO WINDOWS.

Germs of tuberculosis live for months in a house of this kind. It has no windows, it is dark, and no fresh air can enter if the door is shut. If large windows were put in and the house kept clean and orderly, it could be made a very healthy home.

AN OPEN-AIR LIVING SHELTER.

This shelter would be an ideal place to live, if it were kept clean and in order. There is plenty of light and air which soon destroy disease germs. The beds are out in the open air and sunlight. The bedding is, however, dirty and disorderly. The family cook and eat from the floor. They spit on the same floor very freely. They should get a plain table to eat from, should have a place for their food, dishes, and clothing where it would be protected from the dust and flies. They should keep their bedding clean and in good order, and should not spit on the floor.

AN INDIAN HOME IN THE NORTH.

This home may be made very healthy. The windows are large and should be opened at night to let fresh air into the sleeping room. If one of the family has tuberculosis, his bed should be moved out onto the porch. A wire screen may be placed around the porch during the summer. In winter a board partition as high as the bed should be placed around the porch to keep out the snow and rain. The rest should be left open. Any Indian home in the North may be used in this way for the members of the family who have tuberculosis.

MODEL FOR INDIAN HOME HAVING ONLY ONE BEDROOM.

Many Indian families have only one sleeping room. This shows how it may be arranged so that the family will remain healthy. Each child should have his own bed. The bedding should be kept clean. The floor should be kept clean and no one allowed to spit on it. The walls should be as clean and smooth as possible. There should be several large windows which are kept open so that plenty of light and air may enter. Each member of the family should have his own towel and hang it separate from the others. Each one should have his own toothbrush. The little pockets above the washstand are used for separate combs and toothbrushes. Clothes not in use should be aired and hung away.

AN INDIAN SCHOOL BAND.

Instruments used in the band get full of moisture from the mouth. They may thus contain tuberculosis germs. No one should use a band instrument which has been used by others until all the germs on it have been killed. One should not put whistles, apples, chewing gum, or other objects in the mouth if they have been in the mouths of others.

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